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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,227	07/11/2001	Roger D. Hersch		7585

7590 05/19/2004

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EXAMINER	
ROSARIO-VASQUEZ, DENNIS	
ART UNIT	**PAPER NUMBER**
2621	5

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/902,227	HERSCH ET AL.
	Examiner	**Art Unit**
	Dennis Rosario-Vasquez	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 11 July 2001.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-43 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-43 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 11 July 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 19 of the specification has claims 1 and 2. The claims should be deleted from the specification. A separate claims section has claims 1 and 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by van Beek et al. (US Patent 6,047,088 A).

Regarding claim 1, van Beek discloses a method (fig. 1) for creating a target image (fig. 1, label "c") with an animated microstructure (The animated microstructure is a plurality of triangles or patches with texture inside each triangle that differ in shape from labels "a" to "b" to "c". Note that a plurality of triangles is a triangular mesh that contains nodes at col. 3, lines 42-44), where the target image is made of a succession of target image instances (fig. 1, labels "a" to "b" to "c") which differ from each other by an embedded microstructure (The plurality of triangles or microstructures change shape from labels "a" to "b" to "c" that contain triangles with texture information inside or embedded in each triangle ("texture inside" at col. 3, lines 38-47.) which evolves over

time (van Beek uses the triangles in a series of frames to displace the nodes of each mesh “from one frame time instant to the next (col. 2, lines 54-57).”) , the method comprising the steps of:

a) defining an original image (A reference image is searched for the optimum placement of nodes to form a mesh at col. 4, lines 16-25).

b) defining how the embedded microstructure (Fig. 2 has six triangles as the embedded microstructure) evolves (Using figure 2, each triangle has a plurality of nodes such as 12 and 14 that are moved using a motion of nodes method at col. 4, lines 38-41.) over the succession of target image instances (Using fig. 2, num. 18 depicts a mesh that transforms the microstructure or triangles of 10 to obtain the animated microstructure or triangles of 16 at col. 4, lines 39-43.); and

c) rendering (Fig. 4 is a decoder that renders the embedded microstructure or triangles 40 with embedded texture 38 at col. 4, lines 56,57) from the original image a succession of target image instances comprising the evolving embedded microstructure.

Regarding claim 2, van Beek et al. discloses the method of claim 1, where the shape of the animated microstructure (The animated microstructure or texture in the form of a triangle is in a shape of a triangle as shown in figure 1.) is made more flexible (Fig. 1 shows the triangle changing shape or flexing it's shape, but still remain in the shape of a triangle.) by defining an additional microstructure warping step (van Beek et al. uses an affine mapping for warping frames of meshes at col. 3, lines 42-47).

4. Claim 24,25,26,27,28,29,30,31,32 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Judice (US Patent 3,937,878 A).

Regarding claim 24 Judice teaches an image (fig. 4) with an embedded (Fig. 3 is a portion of figure 4 of a mesh of embedded numbers where each number represents an intensity value.) microstructure (Each square or cell of figure 3 is the microstructure.) evolving (The squares or microstructure changes value from either "energize" or "deenergize" states at col. 1, lines 42-44.) over time (The squares or microstructure changes state using the conditional replenishment technique in "successive frames of animated...images...at a frame rate...(col. 5, lines 41-46)." Note that the conditional replacement technique changes states of the microstructures or cells of the mesh at col. 2, line 1-16.), where from far away mainly the image is visible (Judice states that when figure 4 is viewed from a distance, "various shades of gray appear in the ..image (col. 4, lines 8-12)." Thus the black and white blocks are not visible from a distance only shades of gray are present at a distance.), and where said image is displayed as a succession of image instances (Judice uses "animation" as a succession of image instances using the conditional replenishment technique at col. 5, lines 28-31.), each image instance differing from previous image instances by the microstructure evolution (Judice states, "In accordance with this [conditional replacement technique] many... [of]...display cells which are accessed to receive an "energize" or a "de-energize" signal for any given frame are cells which are to have states in that frame which differ from their respective states in the previous frame (col. 5 lines 31-36).").

Regarding claim 25, Judice discloses the image of claim 24, where the visibility of the embedded microstructure is tuned (The microstructure is changed or tuned according to the conditional replacement technique to provide "a frame rate sufficient to depict smooth, continuous motion (Judice, col. 5 ,lines 41-46"). Thus, the motion is tuned using conditional replacement to provide smooth, continuous motion.) by a mask (This element of claim 25 was addressed in claim 3) whose values represent relative weights (Fig. 2 is a dither threshold or weight matrix that determines the states of the microstructures or cells of figure 3.) of an original image (fig. 4) without embedded microstructure (The black squares is a microstructure that is turned off or not energized; thus the black squares are not embedded.) and a corresponding image synthesized with the embedded microstructure (The white squares of figure 4 are energized to produce or synthesize a white square which is embedded (Judice, col 3, line 67 to col. 4, line 5).

Claim 26 has been addressed in claim 22.

Regarding claim 27, Judice discloses the image of claim 25, where contributions of original image and embedded microstructure image according to their relative weights are spatially distributed (Figure 4 show the microstructures as a plurality of squares or cells that form a grid that spatially distributes each cell into rows and columns.).

Claim 28 has been addressed in claim 16.

Claim 29 has been addressed in claim 25.

Claim 30 has been addressed in claim 22.

Claim 31 has different claim language than claim 24, but both claims describe the same limitations. Therefore claim 31 was addressed in claim 24.

Claim 32 has been addressed in claim 25.

Claim 33 has been addressed in claim 22.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3-10,12-14,15,16 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Beek et al. (US Patent 6,047,088 A) in view of Judice (US Patent 3,937,978 A).

Regarding claim 3, van Beek et al. teaches the method of claim 1, where only a part (A node or part of a mesh as shown in fig. 2, num. 12 can be animated by using a motion vector that is either in motion or not in motion at col. 7, lines 42-44.Thus a node will either stay in the same position or move to another position during animation of a mesh of nodes.) of the original image is rendered with an animated microstructure. However, van Beek et al. does not teach the part or node being specified during an additional mask definition step. Instead van Beek et al. specifies a node or part using motion vectors that indicate whether a node or part is moving or not.

However, Judice et al., in the field of endeavor of display systems, teaches a mask or a conditional replenishment technique. Judice states," In accordance with this technique, the only display cells, which are accessed for any given frame, are cells which are to have states in that frame which differ from their respective states in the previous frame. The remaining cells are not accessed at all but, rather, are maintained in their respective previous on or off states (col. 2, lines 2-8).". Thus, cells are not accessed and remain the same state in the next frame, i.e. the cells are masked or covered or not accessed to preserve the state of the cell.)

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify van Beek et al.'s motion of nodes of a mesh as a part of an image with the teachings of Judice's on/off states of a cell as a part of an image, because Judice's on/off states of a cell teaching provides "smooth, continuous motion (col. 2, lines 11-16)."

Claims 4 and 14 have different claim language, but claim 14 describes the same limitation as claim 4. Therefore claim 4 has been addressed in claim 14.

Regarding claim 5, Judice teaches the method of claim 4, where the succession of target image instances is rendered by dithering (Fig. 4 of Judice is a dithered image.) at least one of the basic colors (Judice selects one of the three colors present to render on a particular picture element at col. 9, lines 62-64 .) with a dither matrix (Figures 2 and 3 of Judice shows a dither matrix depicted as horizontal and vertical lines that forms a dithered image with color at col. 9, lines 47-52.) embedding the microstructure (The dither matrix of figure 2 comprises an embedded group of intensity values or numerals

that are represented as squares or the microstructure.) and where the evolution of the embedded microstructure is defined by an animation transformation mapping between an animated dither matrix space (Fig. 3 is an animated dither matrix space or a plurality of cells because the space changes or transforms according to the condition replacement technique at col. 5, lines 28-36.) and an original dither matrix space (fig. 2 is a threshold matrix that determines which cells of figure 3 are in the on or off states at col. 4, lines 4-8.) paved by the dither matrix (The dither matrix is common to both figures 2 and 3).

Claim 6 has been addressed in claim 2.

Claims 7 and 5 have different claim language, but claim 5 describes the same limitation as claim 7. Therefore claim 7 has been addressed in claim 5.

Claims 8 and 5 have different claim language, but claim 5 describes the same limitation as claim 8. Therefore claim 8 has been addressed in claim 5.

Claim 9 has been addressed in claim 2.

Claims 10 and 24 have different claim language, but claim 24 describes the same limitation as claim 10. Therefore claim 10 has been addressed in claim 24.

Claim 12 has been addressed in claim 5.

Claim 13 has been addressed in claim 2.

Regarding claim 14,van Beek et al. teaches a method for creating a target image (fig.1 ,label "c") with a microstructure (Figure 1 has a triangle as the microstructure.) evolving in successive image instances (A triangle from figure 1, label "a" changes or evolves from figure 1, label "b" to figure 1, label "c"), comprising initialization (fig. 3, numeral 22 and 28 are encoders that receive texture and mesh data.) and image rendering (fig. 4, numerals 38 and 40 are decoders that render images at col. 4, lines 56,57.) steps, where the initialization steps comprise:

a) selecting a microstructure (Fig. 6, shows 4 different ways to form a mesh with a triangle or microstructure at col., line 36-38);

b) selecting of a time-dependent animation transformation (van Beek et al. uses an affine transform for a 2D motion field for estimating parameters at col. 3, lines 53-59) allowing the microstructure to evolve over time (van Beek et al. uses the 2D motion field or mesh to estimate motion of node points over time at col. 4, lines 14-16) ;

and where the rendering steps comprise an update (van Beek uses a "dynamic mesh" for decoding that has current or previous states at col. 11, lines 58-64.) of the current instance ("previous mesh") of the animation transformation when a new instance ("current mesh") of the target image is to be rendered.

Regarding claim 20, van Beek et al. teaches a method for creating a target image (fig. 8) with an embedded microstructure (fig. 8 has a triangle as the microstructure.) evolving (Figure 1 shows a progression of change of triangles, similar to those depicted in figure 8, during respective image instances "a", "b", and "c".) in successive image instances comprising the steps of:

a) defining an original image (Addressed in claim 1), an original microstructure (Fig. 1, label "c" or uniform mesh is formed using motion estimation at col. 4, lines 20-22.), and a time-dependent animation transformation (Addressed in claim 14);

b) traversing (The winding arrow of figure 8) a target image (Fig. 8) (x,y) pixel by pixel (van Beek teaches that each node point or vertex is a pixel from col. 3, line 66 to col. 4, lines 1-3.) and row (fig. 8, labels Po thru P4 is one row of triangles) by row (fig. 8, labels P5 thru P9 is another row of triangles), determining corresponding positions in the original image (x',y') and, according to the time-dependent animation transformation (An affine transform is used in each "frame time instant" (col. 4, lines 50,51) to determine "motion of node points" (col. 3, lines 56-59). Also, a warp transform or affine transform can be used with deformed or displaced by motion 2D mesh to render an animated image sequence at col. 4, lines 8-11.), corresponding positions in the original microstructure (x",y") (van Beek et al. states,"...an affine transform can guarantee the continuity of the mapping across the boundaries of adjacent triangles (col. 3, lines 54-56).";

c) obtaining (Using figures 3 and 4, a decoder, fig. 4, receives an encoded data stream from and encoder, fig. 3 that receives a mesh sequence.) from the original microstructure position (Using figure 3, mesh encoder 28 receives a 2D mesh sequence such as figure 1 to produce an encoded data stream at col. 5, lines 6-9. Note that figure 1, label "c" contains the original microstructure.) (x",y") rendering information (The decoder of figure 4 renders the animation at col. 4, lines 56,57).;

van Beek et al. does not teach selecting color information necessary for rendering the target image and obtaining from the original image position (x',y') the color Cr to be reproduced as required of claims 14 and 20, respectively, but van Beek et al. does implicitly suggest animating a flag of a still image (col. 1, lines 39-41) that may contain colors such as red, white, and blue of the US flag.

Judice, in the field of endeavor of display systems, does teach:

a) selecting (Judice selects one of three colors present in a particular picture element at col. 9, lines 63-64 .) color information (Judice does teach using polychromatic or "color" images at col. 9, lines 47-52.) necessary for rendering the target image.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the still image and animation rendering teaching of vanBeek et al. with Judice's color information, because Judice's color information provides "a pleasing color image, which, advantageously, may be animated in accordance with the principles of the present invention (Judice, col. 10, lines 4-7)."

d) rendering the target image by making use of the rendering information (Addressed above).

Claims 3, 15 and 21 have different claim language, but the claims describe the same limitation; thus claims 15 and 21 have been addressed in claim 3.

Regarding claim 16, Judice teaches the method of claim 14, where a multi-valued mask (Judice teaches that the conditional replenishment technique can be used with color images in addition to monochromatic images at col. 9, lines 47-52) expresses the weight (Judice uses an intensity threshold to display the a color cell or microstructure at col. 10, lines 64-66.) of the original image colors (or “previous frame” as addressed in claim 3) and the weight of the selected basic colors in the target image (or “that frame” as addressed in claim 3).

Claim 19 has been addressed in claim 2.

Regarding claim 22, Judice teaches the method of claim 21, where the mask values specify microstructure appearance properties such as visibility Judice teaches that the microstructures or cell contain black de-energized or white energized cells that portray the appearance of various shades of gray when viewed from a distance at col. 4, lines 8-12.)

Claim 23 has been addressed in claim 2.

7. Claim 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Beek et al. (US Patent 6,047,088 A) in view of Judice (US Patent 3,937,878 A) further in view of Hersch et al. (MultiColor and Artistic Dithering).

Regarding claim 17, Judice does not teach the limitations of claim 17, but does teach a converter for inputting images (Fig. 1, num. 12) and a basic color space of R,G,B. at col. 9, line 56.

However, Hersch et al. teaches in "Multi-Color and Artistic Dithering", the method of claim 16, where color information is expressed as a set of basic colors (Red, Green, Blue or RGB), where the initialization steps also comprise a tetrahedrization (Hersch et al., Fig. 2a has six tetrahedrization shapes according to the RGB color space cube.) of the color space (or cube of figure 2a) according to said set of basic colors (The cube of figure 2a has RGB colors as the basic colors.), and where the rendering steps comprise a conversion from original image colors (Fig. 2a has a cube color space that represents the original image colors.) to basic colors making use of said tetrahedrization (Each of the tetrahedrization shapes has one of the basic colors of RGB as depicted in fig 2a.).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the converter and the basic color teaching of Judice with Hersch et al.'s teaching of tetrahedrization, because Hersch et al.'s tetrahedrization teaching reproduces colors correctly for input devices such as the converter (Judice, fig. 1, num. 12) that is coupled to a camera(Judice, fig. 1, num. 10) of Judice.

Regarding claim 18, Hersch et al. teaches the method of claim 17, where the initialization steps also comprise a 3D grid data structure (Fig. 2a is a cube.) pointing to tetraherda (The cube comprises six tetrahedra such as shown in fig 2a) intersecting individual grid elements (The cube comprises the six tetraherda.), and where the conversion from an original image Cr (Fig. 2a has a cube enclosing a color plane that represents an original image.) to basic colors (Using figure 2a, the color plane is partitioned to six tetrahedral where each contain one of the basic colors.) is carried out by:

a) locating a tetrahedron (Fig 2s is a lower left tetrahedron) enclosing original image color Cr (The lower left tetrahedron contains the color B at one of the vertices of the lower left tetraheron.);

b) by expressing Cr as a barycentric combination of four basic colors Ca,Cb,Cc and Cd located at the terahedron's vertices(Hersch et al. teaches that "barycentric coefficients d1,d2,d3,d4 [are] used to express the input tristimulus value as a linear combination of the tetrahedron's vertices. These barycentric coefficients give the relative amounts of basic colors C1, C2, C3 and C4 used to reproduce the input tristimulus value (Hersch et al. at page 426, section: "2.3 Color Separation.").; and

c) by applying multicolor dithering (Hersch et al. teaches "Multi-color dithering" at page 426) to select from the four basic colors the color to be applied at a current target image location (Hersch uses an output pixmap for dithering at page 426, section:"2.2 Multi-color dithering", line 3).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over van Beek et al. (US Patent 6,047,088 A) in view of Meyer et al. (US Patent 6,272,650 B1).

Regarding claim 11 van Beek et al. does not teach a microstructure selected from a set comprising logos, text, symbols and ornaments, but does teach that an animated texture or microstructure can come from a natural object or from a synthetic (computer generated) image at col. 4, lines 53-55.)

However, Meyer et al., in the field of endeavor of loading animations in a computer, teaches where the microstructure (or "nanokernel" that provides animation at Meyer, col. 3, lines 26-31) is selected from a set comprising logos (Meyer, fig. 13, label "LOGO").

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the synthetically generated microstructure or texture of van Beek et al. with the nanokernel animation of a logo of Meyer, because advertisers use animated logos to "capture the users' attention (Meyer, col. 1, lines 39,40)". Thus advertisers increase their chances that a user will see and buy the advertisers product due to an animated advertisement as opposed to a still advertisement.

9. Claims 34,35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US Patent 6,389,075 B2) in view of Judice (US Patent 3,937,878 A).

Claim 34 was addressed in claim 36.

Claim 35 was addressed in claim 36.

Regarding claim 36, Judice teaches a computing system (Fig. 1, num. 40 is a signal processor used in the system of figure 1.) capable of displaying a target image with an embedded microstructure evolving over time, where from far away mainly the image is visible and from nearby mainly the evolving microstructure is visible(This limitation was addressed in claim 24).

Judice does not teach the remaining limitations directed towards the computing system. However, Judice uses the processor of figure 1, num. 40 with a display num. 70.

However, Wang teaches a computing system (fig. 1) capable of displaying a target image (fig. 1, num. 26 or fig. 2) with an embedded microstructure (fig. 2, num. 53 is an animation window embedded inside a web page.) evolving over time (Animation uses frame rates which is measured in units of time.), the computing system comprising a server computing system (Fig. 1, num. 12 is a cable provider.) and a client computing (fig. 1, num. 16 is a converter that comprises a processor, num. 24.) and display system (fig. 1, num. 26), where the client computing and display system receives from the server computing system as input data an original color image (Numeral 16 receives video and Internet data), microstructure data (Fig. 2, num. 53:"ANIMATION WINDOW" contains data for animation within a web page.) and microstructure evolution parameters (fig. 2 has two sets of coordinate values that determine the alignment of the window as depicted in figure 4, num. 204.) and where the client computing and display system synthesizes and displays the target image with the embedded microstructure on the fly (The encoder can be used in "real time" at col. 11 , lines 13-15).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the processor and display (Judice, fig.1, num. 40 and 70, respectively.) of Judice with the processor (Wang et al., fig. 1, num. 24) of Wang et al., because Wang et al.'s processor restores encoded or compressed signals or a carrier wave for display on a television or monitor (Wang et al., col. 5, line 65 to col. 5, line 4).

Claim 37 has been addressed in claims 5 and 28.

Claim 39 was addressed in claim 36.

Claim 40 was addressed in claim 36.

Claim 41 was addressed in claim 36.

Claim 42 was addressed in claim 36.

Claim 43 was addressed in claim 37.

10. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US Patent 6,389,075 B2) in view of Judice (US Patent 3,937,878 A) further in view of van Beek et al. (US Patent 6,047,088 A).

Regarding claim 38 Wang et al. and Judice teaches the computing system of claim 37, where the client computing and display system also receives from the server computing system as input data a mask whose values represent relative weights of the original color image and of the dithered image (This portion was addressed in claim 16), the mask defining the position and visibility of the microstructure within the target image (This portion was addressed in claim 22).

Wang et al. and Judice do not teach where the microstructure evolution parameters also comprise a warping transformation. However, Wang et al. does suggest aligning a macroblock in a window due to the general case that "animation window(s) will not line up with the macroblock boundaries (col. 9, lines 65-67)." Thus an animation will be distorted or warped.

Van Beek et al. does teach where the microstructure evolution parameters also comprise a warping transformation (Figure 1 shows a warping progression from a to c).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the alignment teaching of Wang et al. with the warping teaching of van Beek et al., because van Beek et al.'s warping teaching "can guarantee the

continuity of mapping across the boundaries of adjacent triangles (col. 3, line 54,55)." Therefore, the animation windows of Wang et al. can be mapped to the macroblock boundaries using van Beek et al.'s warping teaching.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tanioka et al. (US Patent 5,760,918 A) is pertinent as teaching a weighted mask as depicted in figure 1B.

Milliron (US Patent 6,608,631 B1) is pertinent as teaching a method of warping an image using a grid as depicted in figure 3B.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario-Vasquez whose telephone number is 703-305-5431. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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